

CLAIMS

1. A method of making a turbomachine turbine, the turbine comprising at least one moving wheel provided with blade inserts, each of the inserts used for the or each moving wheel comprising at least two blades interconnected by common inner and outer platforms and sharing a common root, wherein at least some of the inserts have a hollow root in which a recess is formed, and insert roots belonging to the same wheel and/or insert roots belonging to two different wheels are voluntarily given different configurations for the recesses in their roots so as to adjust the resonant frequencies of said blade inserts to values that are significantly different, thereby ensuring that the blade inserts of a single wheel and/or between two different wheels are out of tune.
2. A method as claimed in claim 1, wherein blade inserts are used including at least some having a solid root without any recess.
3. A method of adjusting the resonant frequency of a moving blade insert for a turbomachine turbine, wherein the insert is made to have at least two blades interconnected by common inner and outer platforms and sharing a common root, and the resonant frequency of the insert is adjusted by forming a recess in the insert root.
4. A method as claimed in claim 3, wherein the insert is made with a root in the form of a bulb, and its resonant frequency is adjusted by acting on the thickness of material on either side of the recess, level with a portion of the root that forms a neck.
- 35 5. A method as claimed in claim 3 for adjusting the resonant frequency of a blade insert in a turbine of a turbomachine having a high-pressure turbine (HP) and a

low-pressure turbine (LP), wherein the resonant frequency of the insert is adjusted to a value that is more than 14% greater than the excitation mode corresponding to $N_2 - N_1$ where N_2 and N_1 are the speeds of rotation of the HP and LP turbines.

6. A staged turbine for a turbomachine, the turbine comprising at least one moving wheel fitted with blade inserts each comprising at least two blades 10 interconnected by common outer and inner platforms and sharing a common root, wherein at least some of the inserts of the same moving wheel and/or of different moving wheels have hollow roots in which respective recesses are formed presenting configurations that differ 15 so that the inserts have resonant frequencies that are significantly different.

7. A turbine as claimed in claim 6, wherein the recess opens out into at least one side of the root.

20 8. A turbine as claimed in claim 7, wherein the recess is blind, opening out in one side only of the root.

9. A turbine as claimed in claim 6, wherein some of the 25 inserts have a root without any recess.

10. A turbine as claimed in claim 6, for a turbomachine having a high-pressure turbine (HP) and a low-pressure turbine (LP), wherein each moving blade insert of the 30 turbine has a resonant frequency that is more than 14% greater than the excitation mode corresponding to $N_2 - N_1$, where N_2 and N_1 are the speeds of rotation of the HP and LP turbines.